

Attorney Docket No. RONI-015/01US  
 (186980-2036)

PATENT

Applicant or Patentee: Zyray Wireless, Inc.  
 Serial No.: 10/650,478  
 Filed: August 28, 2003  
 For: ITERATIVE MULTI-STAGE DETECTION TECHNIQUE FOR A  
 DIVERSITY RECEIVER HAVING MULTIPLE ANTENNA ELEMENTS

# ASSERTION OF ENTITLEMENT TO SMALL ENTITY STATUS UNDER

## 37 C.F.R. §1.27 - SMALL BUSINESS CONCERN

I hereby declare that I am:

- ☐ the owner of the small business concern identified below:  
☒ an official of the small business concern empowered to act on behalf of the concern identified below:

Name of Small Business Concern: ZYRAY WIRELESS, INC.

Address of Small Business Concern: 11455 El Camino Real, Suite 350  
 San Diego, CA 92130

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 C.F.R. §121 for purposes of paying reduced fees under 35 U.S.C. §§41(a) and (b), in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both;

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the invention entitled and described in:

- ☐ the specification filed herewith;  
☒ the application identified above; or  
☐ the patent identified above;

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed below\* and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 C.F.R. §1.27(a)(1) or by any concern which would not qualify as a small business concern under 37 C.F.R. §1.27(a)(2) and 13 C.F.R. §121 or a nonprofit organization under 37 C.F.R. §1.27(a)(3):

\*NOTE: Please obtain separate Assertions of Entitlement to Small Entity Status from each named person, concern or organization having rights to the invention averring to their status as small entities.

Name:

Address:

☐ Individual    ☐ Small Business Concern    ☐ Nonprofit Organization

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 C.F.R. §1.27(g))



Signature

Date

Name of Person Signing

Title of person other than owner

Address of person signing

  
\_\_\_\_\_  
  
\_\_\_\_\_

Pieter van Rooyen

Chief Technology Officer

11455 El Camino Real, Suite 350  
San Diego, CA 92130



**DECLARATION**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated next to my name;

I believe I am an original, first and joint inventor of the subject matter which is claimed  
and for which a patent is sought on the invention entitled:

**ITERATIVE MULTI-STAGE DETECTION TECHNIQUE FOR A  
DIVERSITY RECEIVER HAVING MULTIPLE ANTENNA ELEMENTS**

the specification of which:

(check one)

☐ is attached hereto;

☒ was filed as United States Application Serial No.10/650,478 on August 28, 2003;

☐ was filed as PCT International Application No. \_\_\_\_ on \_\_\_\_ and was amended under PCT  
Article 19 or Article 34 on \_\_\_\_ (if applicable);

I have reviewed and understand the contents of the above-identified specification,  
including the claims, as amended by any amendment referred to above;

I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all  
information which is known to me to be material to the patentability of said invention in  
accordance with 37 C.F.R. §1.56;

I hereby claim foreign priority benefits under 35 U.S.C. §119 and/or §365 of any foreign  
application(s) for patent, any foreign application(s) for inventor's certificate, or any PCT

international application(s) designating at least one country other than the United States of America listed below; I have also identified below any foreign application(s) for patent, any foreign application(s) for inventor's certificate, or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed:

Prior Foreign Application(s)

COUNTRY/INTERNATIONAL	APPLICATION NUMBER	DATE OF FILING (day, month, year)	PRIORITY CLAIMED
			<input type="checkbox"/> YES <input type="checkbox"/> NO
			<input type="checkbox"/> YES <input type="checkbox"/> NO

I hereby claim the benefit under 35 U.S.C. §119(e) of any United States provisional application(s) listed below:

60/407,524  
(Application Number)

August 28, 2002  
(Filing Date) (day, month, year)

\_\_\_\_\_  
(Application Number)

\_\_\_\_\_  
(Filing Date) (day, month, year)


I hereby claim the benefit under 35 U.S.C. §120 and/or §365 of any United States application(s) or of any international application(s) designating the United States of America that is/are listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior application(s) in the manner provided by the first paragraph of 35 U.S.C. §112, I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in 37 C.F.R. §1.56 which became available between the filing date(s) of the prior application(s) and the national or PCT international filing date of this application:

Prior U.S. Application(s) or PCT International Applications Designating the U.S. for benefit under 35 U.S.C. §120

U.S. APPLICATIONS			STATUS ( <i>check one</i> )		
U.S. APPLICATION NO.	U.S. FILING DATE (day, month, year)		Pending	Patented	Abandoned
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>PCT APPLICATIONS DESIGNATING THE U.S.</b>					
PCT APPLICATION NO.	PCT FILING DATE (day, month, year)	U.S. APPLICATION NOS. (if any)			
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**Full name of first inventor:** Pieter van Rooyen

Inventor's signature   
 Residence: San Diego ~~California~~  
 Citizen of: South Africa  
 Post Office Address: 11455 El Camino Real, Suite 350  
 San Diego, CA 92130

Date 9/9/03

**Full name of second inventor:** Danie van Wyk

Inventor's signature \_\_\_\_\_  
 Residence: Gauteng, South Africa  
 Citizen of: South Africa  
 Post Office Address: 410 New Hampshire Crescent  
 Faerie Glen X2  
 Pretoria  
 0043

Date \_\_\_\_\_

Attorney Docket No. RONI-015/01US

Page 3

**Prior U.S. Application(s) or PCT International Applications Designating the U.S. for benefit under 35 U.S.C. §120**

U.S. APPLICATIONS			STATUS (check one)		
U.S. APPLICATION NO.	U.S. FILING DATE (day, month, year)		Pending	Patented	Abandoned
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>PCT APPLICATIONS DESIGNATING THE U.S.</b>					
PCT APPLICATION NO.	PCT FILING DATE (day, month, year)	U.S. APPLICATION NOS. (if any)			
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**Full name of first inventor:** Pieter van Rooyen

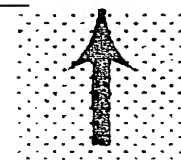
Inventor's signature: [Signature]  
 Residence: San Diego, California  
 Citizen of: South Africa  
 Post Office Address: 11455 El Camino Real, Suite 350  
 San Diego, CA 92130

Date: 9/8/03

**Full name of second inventor:** Danie van Wyk

Inventor's signature: [Signature]  
 Residence: Gauteng, South Africa  
 Citizen of: South Africa  
 Post Office Address: 410 New Hampshire Crescent  
 Faerie Glen X2  
 Pretoria  
 0043

Date: 11/03/03



**HERE  
SIGN**

Express Mail Label No.: EV 371626808 US

Date of Deposit: January 16, 2004



Attorney Docket No: RONI-015/01US  
(186980-2036)

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of Pieter van Rooyen and Examiner: Unknown  
Danie van Wyk

Art Unit: 2681

Serial No.: 10/650,478

Confirmation No.: 6127

Filed: August 28, 2003

For: **ITERATIVE MULTI-STAGE DETECTION TECHNIQUE FOR A  
DIVERSITY RECEIVER HAVING MULTIPLE ANTENNA ELEMENTS**

---

Mail Stop Missing Parts  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**POWER BY ASSIGNEE  
AND STATEMENT UNDER 37 C.F.R. §3.73(b)**

The Assignee of the entire right, title, and interest in the above-identified application hereby grants the registered practitioners of Cooley Godward LLP included in the Customer Number provided below power to act, prosecute, and transact all business in the U.S. Patent and Trademark Office in connection with this application, any applications claiming priority to this application, and any patents issuing therefrom.

The Assignee certifies that to the best of its knowledge and belief it is the owner of the entire right, title, and interest in and to the above-identified application as evidenced by:

☒ An assignment document, a copy of which is enclosed herewith;


☐ An assignment previously recorded in the U.S. Patent and Trademark Office at Reel \_\_\_, Frame \_\_\_.

Please direct all telephone calls and correspondence to:

Cooley Godward LLP  
ATTN: Patent Group  
Five Palo Alto Square  
3000 El Camino Real  
Palo Alto, CA 94306-2155  
Tel: (650) 843-5000  
Fax: (650) 857-0663

CUSTOMER NUMBER: **23419**

The undersigned (whose title is supplied below) is empowered to sign this statement on behalf of the Assignee.

Date: 9/9/03 Signature:   
Name: Pieter van Rooyen  
Title: CTO  
Company: Zyray Wireless, Inc.



Attorney Docket No: RONI-015/01US  
(186980-2036)

PATENT

ASSIGNMENT  
(Joint)

COPY

Pieter van Rooyen, residing at San Diego, California, and Danie van Wyk, residing at Gauteng, South Africa (each referred to as "Assignor") have made an invention(s) (the "Invention(s)") set forth in an application for patent of the United States, entitled ITERATIVE MULTI-STAGE DETECTION TECHNIQUE FOR A DIVERSITY RECEIVER HAVING MULTIPLE ANTENNA ELEMENTS, and which is a:

- (1) ☐ provisional application
  - (a) ☐ to be filed herewith; or
  - (b) ☐ bearing Application No. , and filed on ; or
- (2) ☒ non-provisional application
  - (a) ☐ to be filed herewith; or
  - (b) ☒ bearing Application No. 10/650,478, and filed on August 28, 2003.

**WHEREAS**, ZYRAY WIRELESS, INC., a corporation duly organized under and pursuant to the laws of California, and having its principal place of business at 11455 El Camino Real, Suite 350, San Diego, California 92130 (the "Assignee"), is desirous of acquiring the entire right, title, and interest in: the Invention(s); the application for patent identified in paragraph (1) or (2); the right to file applications for patent of the United States or other countries on the Invention(s); any application(s) for patent of the United States or other countries claiming priority to these application(s); any provisional or other right to recover damages, including royalties, for prior infringements of these applications; and any patent(s) of the United States or other countries that may be granted therefor or thereon.

**NOW, THEREFORE**, for good and sufficient consideration, the receipt of which is hereby acknowledged, and to the extent that the Assignor has not done so already via a prior agreement with the Assignee, or if the Assignor has already done so via a prior agreement with the Assignee then in confirmation of any obligation to do so in said prior agreement, the Assignor has sold, assigned, transferred, and set over, and by these presents does sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns, the Assignor's entire right, title, and interest in:

- (a) the Invention(s);
- (b) the application for patent identified in paragraph (1) or (2);
- (c) the right to file applications for patent of the United States or other countries on the Invention(s), including all rights under the Paris Convention for the Protection of Industrial Property and under the Patent Cooperation Treaty;

(d) any application(s) for patent of the United States or other countries claiming the Invention(s);

(e) any application(s) for patent of the United States or other countries claiming priority to the application for patent identified in paragraph (1) or (2) or any application(s) for patent claiming the Invention(s), including any division(s), continuation(s), and continuation(s)-in-part; and

(f) any provisional or other right to recover damages, including royalties, for prior infringements of any application for patent identified in the proceeding paragraphs (b)-(e); and

(g) any patent(s) of the United States or other countries that may be granted for or on any application for patent identified in the preceding paragraphs (b) – (e), including any reissue(s) and extension(s) of said patent(s).

The above-granted rights, titles, and interests are to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, as fully and entirely as the same would have been held and enjoyed by the Assignor had this sale and assignment not been made.

The Assignor hereby represents to the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, or if applicable, at such time said prior agreement was executed, the Assignor is a lawful owner of an undivided interest in the entire right, title, and interest in and to the Invention(s), that the Invention(s) are unencumbered, except, if applicable, by obligation to assign in accordance with said prior agreement, and that the Assignor has good and full right and lawful authority to sell and convey the same in the manner set forth herein.

The Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives, and assigns, that the Assignor will sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done in connection with any and all proceedings for the procurement, maintenance, enforcement and defense of the Invention(s), said applications, and said patents, including interference proceedings, without charge to the Assignee, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns.

The Assignor hereby authorizes and requests the attorneys of COOLEY GODWARD L.L.P. to insert in the spaces provided above the filing date, the application number, and the attorney docket number of the application identified in paragraph (1) or (2) when known.

The Assignor hereby requests the Commissioner of Patents to issue said patents of the United States to the Assignee for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Date: 10/30/03By: Pieter van RooyenState of California

ss.

County of San Diego

On 30 October 2003, before me, Susan L. White, Notary Public, personally appeared Pieter Van Rooyen personally known to me or proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Susan L. White  
Signature of Notary Public



SUSAN L. WHITE  
Commission # 1311940  
Notary Public - California  
San Diego County  
My Comm. Expires July 2, 2007

Place Notary Seal Above

Date: \_\_\_\_\_

By: \_\_\_\_\_

Danie van Wyk

State of \_\_\_\_\_

ss.

County of \_\_\_\_\_

On \_\_\_\_\_, before me, \_\_\_\_\_, personally appeared \_\_\_\_\_, personally known to me or proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

\_\_\_\_\_  
Signature of Notary Public

Place Notary Seal Above

01d

6889 ON XI/XI

80:20 00, 11/70

Rev. 05/14/2001

Attorney Docket No. RONI-015/01US

Page 3

The Assignor hereby requests the Commissioner of Patents to issue said patents of the United States to the Assignee for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

Date: 10/30/03By: Pieter van RoooyenState of CaliforniaCounty of San Diego

On 30 October 2003, before me, Susan L. White, Notary Public, personally appeared Pieter Van Roooyen, personally known to me or proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Susan L. White  
Signature of Notary Public

SUSAN L. WHITE  
Commission # 011005  
Notary Public - California  
San Diego County

Place Notary Seal Above

Date: 10 NOVEMBER 2003By: Danie van WykState of GAUTENGCounty of SOUTH AFRICA

On 10 NOVEMBER, before me, Daniël Sewoke, personally appeared DANIEL VAN WYK, personally known to me or proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal.

Daniël Sewoke  
Signature of Notary Public

Place Notary Seal Above

STATION BEVERLY HOSKIN  
GARSFONTEIN

2003 - 11 - 10

STATION COMMANDER  
GARSFONTEIN

SOUTH AFRICAN POLICE